

Proposed Amendments to the Truck and Bus Regulation



Diamond Bar	-	December 3, 2013
Sacramento	-	December 4, 2013
Redding	-	December 5, 2013
San Diego	-	December 10, 2013
Fresno	-	December 12, 2013

California Environmental Protection Agency



Air Resources Board

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Agenda

- Overview of the Truck and Bus Rule
- Responding to Stakeholder Concerns
- Proposed Amendments
- Discussion

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Overview of the Truck and Bus Rule

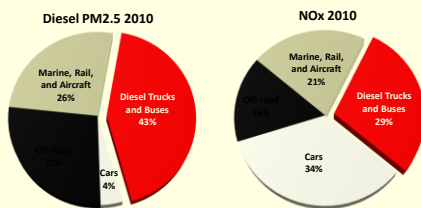
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California Air Quality Challenges

- Exposure to Particulate Matter
 - South Coast, San Joaquin Valley exceed the federal standard.
 - Compliance required in 2014
- Exposure to Ozone
 - Many areas don't meet ozone standards
 - Compliance required by 2023
- Exposure to Diesel Particulate Matter
 - Defined by law as Toxic Air Contaminant
 - Regions affected are statewide
 - ARB established goal of 85% reduction by 2020 ⁴

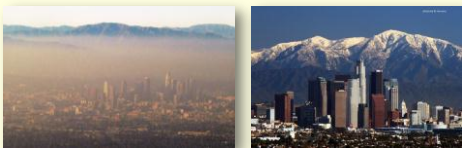
Trucks Are Significant Source of Emissions

- Trucks and Buses represent almost half of statewide diesel PM emissions and 30% of statewide NOx emissions



Truck Rule Key to Air Quality

- Needed to meet federal deadlines
 - Strategies for PM2.5 and ozone
 - Largest share of reductions expected from trucks
 - Approved by EPA, now legally binding
- Needed to meet goals of diesel risk reduction plan



Responding to Stakeholder Concerns

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Stakeholder Concerns

- The economy has not recovered from the recession, especially in rural areas
- Costs of compliance are high and may cause some to go out of business
- ARB is underestimating the number of affected trucks
- Diesel particulate filters are ineffective and unproven
- Additional flexibility is required for fleets
- More incentive funding needs to be available
- Changes must be fair and enforceable, recognizing fleets that have complied
- Changes need to ensure overall benefits of rule are preserved

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Update on Economic Conditions

- The recession caused a significant reduction in fuel use and miles travelled from 2007 to 2010
 - Trucking fleets became smaller and older in response
- The effect on employment
 - Rural areas: 7-13+% unemployment
 - Urban Areas: 5-10% unemployment
- Since 2010 economic trends are generally consistent with ARB emissions projections

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Compliance Costs

- \$15,000 - \$19,000 for a diesel particulate filter
- \$90,000 - \$170,000 for new 2010+ truck
 - Specialty body types can be more expensive
- \$35,000 - \$55,000 for used 2007+ truck
- Rule provides flexibility for fleets to find least cost pathways to compliance
- Economic impacts must be balanced with air quality needs

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Quantifying How Many Trucks Need to Comply

- Multiple data sources
 - DMV and IRP Inc Registration (April 2013)
 - Motor Carrier Permits
 - Rule compliance databases
- Count trucks by
 - California registered and IRP (state of registration)
 - Fleets/Fleet Size, Age, and Weight
- Assess compliance at fleet level
- Updating with current data for April Board meeting

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Initial Counts Focused on Trucks in California Registered Small Fleets

- More than a million trucks operate in California
- 500,000 based in California
 - California registered
 - California registered in IRP
 - Registered in IRP with address in California
- 60,000 California registered, non-IRP, >26k GVWR trucks, in small fleets
 - 15,000 of these need to retrofit or replace in 2014
 - Determined by evaluating vehicle age, fleet size, and composition of each fleet

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Diesel Particulate Filter Concerns

- Stakeholder concerns and comments
 - "Cost of the filter is more than the truck... they are not proven to work well... Why spend money on a failing device"
 - "There are issues when trucks do not generate enough heat... The heat profile is better when trucks do freeway miles"
 - "The filters clog up fast... resulting in loss of work hours for cleaning and repairs"
 - "Take a look at VDECS reliability... VDECS manufacturers may disagree"
 - "Opacity tests show my truck is clean... Why do I need a filter?"

Diesel Particulate Filters - Overview

- Mature and proven technology
 - Standard equipment in 2007 and newer engines
 - In hundreds of thousands of vehicles in California; millions nationally and internationally
- Retrofit DPFs work in many applications
 - More than 10,000 retrofits installed in trucks subject to the Truck and Bus Rule
 - More than 25,000 in other on- and off-road applications in California

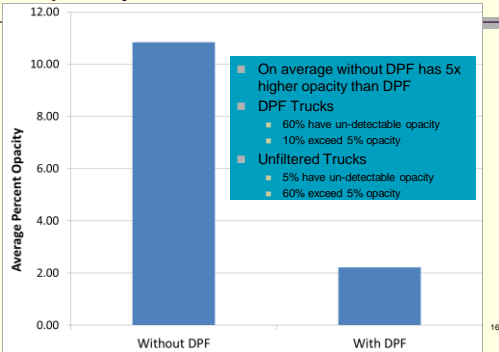
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Smoke Inspection Programs

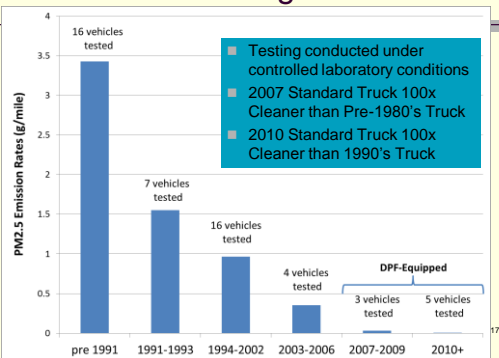
- Designed to quickly identify gross emitters that require repair and maintenance
 - 40% opacity limit for 1990 and newer engines
 - Not designed to measure emissions accurately
- 2011 Field Investigation
 - 1800 vehicles tested for opacity
 - Selected at random on the roadside
- Results demonstrate
 - DPF trucks are much cleaner than unfiltered trucks
 - Opacity not always good surrogate for PM emissions

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Opacity Measurement



Controlled Testing Data



ARB Verification Program

- Multiple manufacturer requirements
 - Laboratory testing
 - In-Use field verification
 - Warranty
- Warranty Tracking
 - ARB investigates claims >4% of devices sold
- Retrofit Advocate
 - ARB investigates issues between manufacturer, installer, and end user

Extensive Retrofit Program

■ Retrofit Sales and Warranty Claim Overview

Total Verified Retrofits	Total Retrofit Sales 2000-2012 All Programs	Total DPF Sales 2000-2012 All Programs	Total Warranty Claims*	Total Warranty Claims for the DPF Core
90	49,648	36,154	5,700 (11%)	222 (0.6% of all DPFs)

* All submitted claims (valid, denied, and goodwill) for all components, including consumable components such as fuses, glow plugs, and O-rings

■ ARB staff have conducted 53 investigations through the Retrofit Advocate program

- Findings suggest engine component failures and inadequate maintenance are the predominant cause for retrofit failures

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Investigating Stakeholder Concerns

■ ARB is initiating an investigation into retrofit and factory-installed DPFs

- Data evaluation
 - Warranty and testing
- Roadside surveys and follow-up with fleets
- Interviews with fleets, retrofit installers, truck dealers
- Fleet telephone interviews with on-site follow-up where necessary

■ Expected completion before April 2014

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Incentive Availability

■ Part of the solution

- Funding is available through Carl Moyer Programs and Goods Movement
- Programs target higher use trucks
- Encourage early action; intended to pay for early compliance
- Recognize limited funding in rural areas

■ Additional funding for small business

- \$20M available for statewide loan program
- \$180M for grants through Goods Movement
 - Travel must be in trade corridors
- \$3M for rural log trucks

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Proposed Amendments

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Proposed Amendments

- Purpose
 - Respond to stakeholder concerns
 - Provide more pathways to compliance
 - Ensure public health protection and SIP compliance
- Timeline
 - Workshops - December 2013
 - Publish staff report on March 5, 2014
 - Board Hearing - April 24, 2014

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Truck and Bus Regulation Summary

- Lighter Vehicles
 - 2010 Engines 2015-2023
 - No PM retrofit filters
- Heavier Vehicles
 - PM Filters 2012–2014, then
 - 2010 Engines 2020-2023
- Small fleet option
- PM Filter Phase-in
- ARB will recognize good faith efforts for 2014



Flexibility in the Current Regulation



Low-Use Agriculture

• Compliance 2017 or 2023



Log Truck Phase-In

• Upgrade to 2010 engines 2014-2023



NOx Exempt Areas

• Filter only phase-in 2014-2016



Low-Mileage Construction

• Filter Phase-in 2014 to 2016



Low-Use Exemption

• 1,000 miles per year
• 100 hours per year if stationary work

Compliance Advisory

- Provides additional time for owners to complete good faith compliance efforts
- Allows use of new rule flexibility provisions that will be considered by the Board
- To take advantage fleets **must report**
 - By January 31, 2014
 - To TRUCRS
 - https://ssl.arb.ca.gov/ssltrucrctb/trucrs_reporting/reporting.php

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Proposed Regulatory Amendments

- Reopen opt-in period for flex options
 - Low-use agricultural and construction trucks
- Increase thresholds for Low Use exemption
- Expand definition of NOx Exempt areas
 - Delay PM filter requirements initially for one year
 - Evaluate longer PM timelines for certain areas

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Reopen Flexibility Opt-In-Periods

- Low mileage extensions
 - Agricultural vehicles – below threshold since 2011
 - Construction trucks – below threshold since 2012
- Use PM filter phase-in option and credits
- Must meet existing requirements
 - Same as those who reported on time
- Report by January 31, 2014

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Increase Low Use Exemption

- Increase threshold for all trucks
 - Operating a total of less than 5,000 miles per year or
 - PTO – raise to 200 hours per year (stationary)
- Retain current < 1,000 annual miles in CA option
- Reporting is required
- Sunset higher levels in January 2020
- Opt in January each year

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NOx Exempt / Added Area Extension

- Expand definition of “NOx Exempt” areas
 - Reporting and labeling requirements remain
- Evaluating expanded (crosshatched) regions
 - Air quality attainment status
 - Air quality impact on adjacent areas
 - Population/density
 - Unemployment statistics
- PM filters delayed initially until January 1, 2015
 - Allows Board to consider timeline to deploy PM filters

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Proposed NOx Exempt Area Map



The darker areas are already defined as NOx exempt areas and the lightly shaded areas represent the proposed added regions.

The crosshatched areas are additional areas that do not meet the January 1, 2014 compliance date, and are being evaluated for further relief.

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Potential NOx Exempt Area Schedules

■ Initial PM filter schedule concepts

Option	2015	2016	2017	2018	2019	2020
A	33%	66%	100%			
B	--	--	33%	66%	100%	
C	33%	33%	66%	66%	66%	100%
D	--	20%	40%	60%	80%	100%

- Provide additional time for owner-operators
- Additional time needs to be balanced in consideration of fleets that have already taken actions
 - Will look at data from TRUCRS to assess

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Discussion Items

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Discussion Items

- Additional ideas for rule flexibility
- Consider early action credits for clean-up actions already taken
- Credits for adding low NOx engines or advanced technology vehicles

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For More Information...

Truck and Bus Regulation information: www.arb.ca.gov/dieseltruck

Reporting questions (TRUCRS): trucrs@arb.ca.gov

Listserv (onrdiesel): http://www.arb.ca.gov/listserv/listserv_ind.php?listname=onrdiesel

DIESEL HOTLINE:
(866) 6-DIESEL (866-634-3735)
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